

REMARKS

Claims 1 and 13 have been cancelled and claims 2-12 and 14-27 remain pending in the above-referenced patent application. Applicants amended claims 2 and 14 to clarify the claimed invention, and refer to Figs. 3A-3E and their corresponding description in the specification for an exemplary embodiment and support for the amendments. Applicants also amended claims 5, 7, and 12 to correct minor errors. No new matter has been added.

Applicants acknowledge with appreciation the Examiner's indication that claims 7-11, 19-23, and 25 contain allowable subject matter, and submit that the reasons provided include only the Examiner's interpretation, which should in no way limit the scope of the allowable claims.

Claims 2-6, 12, 14-18, 24, 26 and 27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,501,804 to Rudolph et al. in view of U.S. Patent 6,215,798 to Cameheim et al. Applicants amended base claims 2 and 14 in a good faith effort to clarify the invention as distinguished from the cited prior art references. The Examiner's rejection is respectfully traversed.

The Examiner acknowledged that Rudolph et al. fail to "teach extracting the zero-point based on the established synchronization," page 3, lines 10-11 of the Office Action, and relied upon Cameheim et al. as a combining reference that allegedly suggests this feature.

Cameheim et al. describe a scheme for synchronizing parallel channel transmissions by inserting a synchronization bit sequence into transmitted data frames and extracting the bit sequence for aligning data frames from the various parallel channels. Please see, e.g., the abstract, Figs. 3, 4, and their corresponding description in Cameheim et al. The bit sequence is

inserted as a kind of marker for indicating the relative positions of transmitted data frames so that such data frames received from parallel channels may be aligned to reconstruct the original data stream. In other words, Carmeheim et al. describe extracting a bit sequence for synchronizing transmitted data. As such, Carmeheim et al., as applied by the Examiner, do not disclose or suggest extracting the bit sequence based on any otherwise established synchronization.

The Examiner even acknowledged that Carmeheim et al. do not disclose extracting a zero-point, but argued that the reference describes using zeros for synchronization. The Examiner further argued that since Applicants have not disclosed an advantage of using a zero-point, that it would have been obvious to one skilled in the art to modify Carmeheim et al. to extract only zeroes for synchronization. Applicants refer to Figs. 3A-3E and their corresponding description in the specification for an exemplary embodiment demonstrating the advantages of the claimed invention. For example, paragraphs [0022] & [0023] on page 7 of the specification describe advantages of using "zero-point"—at which only noise components on a received signal remain. Superfluous noise components other than the noise N carried on the signal S to be inherently obtained can be prevented from being superimposed on a received signal, with a "zero-point." Neither Rudolph et al. nor Carmeheim et al. provide any suggestion that the use of zero-point would derive such advantages in interpolating a noise component of a received signal. And since Carmeheim et al. only describe extracting a bit sequence for synchronization, it would not have been obvious to one skilled in the art at the time the claimed invention was made to modify and combine it with Rudolph et al. to yield the claimed invention in the manner proposed by the Examiner. It was improper hindsight from the claimed invention to apply the synchronization bit sequence extraction described in Carmeheim et al. to the noise reduction scheme described in

Rudolph et al. to yield the claimed invention of extracting a zero-point for interpolating a noise component of a received signal.

Neither reference includes any suggestion or motivation to modify the bit sequence extraction described in Carneheim et al. to be based on an established synchronization and for interpolating a noise component of a received signal. Therefore, even assuming, arguendo, that it would have been obvious to one skilled in the art at the time the claimed invention was made to combine Rudolph et al. and Carneheim et al., the combination would still fail to teach or suggest,

“periodically inserting a zero-point into a transmission signal, establishing synchronization based on a received signal, extracting the zero-point based on the established synchronization and interpolating a noise component of the received signal by using the zero-point, and subtracting the noise component from the received signal, “as recited in claim 2. (Emphasis added)

Applicants, thus, respectfully submit that claim 2, together with claims 3-6 and 12 dependent therefrom, is patentable over Rudolph et al. and Carneheim et al., individually and in combination, for at least the above-stated reasons. Claims 14 and 26-27 include features similar to those of claim 2 cited above and are, therefore, together with claims 15-18 and 24 dependent from claim 14, patentable over the cited prior art references for at least the same reasons.

The above statements on the disclosures in the cited references represent the present opinions of the undersigned attorney. The Examiner is respectfully requested to specifically indicate those portions of the respective reference that provide the basis for a view contrary to any of the above-stated opinions.

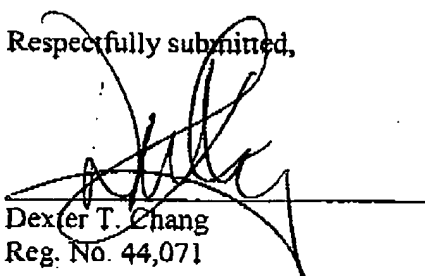
In view of the remarks set forth above, this application is in condition for allowance which action is respectfully requested. However, if for any reason the Examiner should consider

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this application not to be in condition for allowance, the Examiner is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fee due with this paper may be charged to Deposit Account No. 50-1290.

Respectfully submitted,



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